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MYOCARDIAL ISCHEMIA AND INFARCTION

DOES WEEKEND EFFECT OF MYOCARDIAL INFARCTION STILL EXIST - A NATIONWIDE ANALYSIS?

ACC Poster Contributions
Georgia World Congress Center, Hall B5
Sunday, March 14, 2010, 3:30 p.m.-4:30 p.m.

Session Title: Acute Myocardial Infarction--Timing Issues in Reperfusion Therapy
Abstract Category: Acute Myocardial Infarction--Therapy
Presentation Number: 1101-282

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Background: Previous studies have implicated worse outcomes for weekend admissions of myocardial infarction (MI). There is a paucity of data to substantiate this variation at a national level and to see if this difference still exists in more recent years. Similar discrepancy in outcomes has also been seen in other emergent medical conditions. The decreased resources and expertise on the weekends has been thought to be the causative factor.

Methods: This was a cross sectional study using the National Inpatient Sample (NIS) 2007 database. A total of 287,470 discharges with MI and its related revascularization procedures were identified through appropriate International Classification of Diseases, ninth edition codes. MI was defined as patients discharged with any ICD code of 410.x or 411.1. Weekend admissions were defined as all admissions between midnight on Friday through midnight on Sunday. Primary outcomes measured were in-hospital mortality, total charges and number of revascularization procedures.

Results: Of the 287,470 discharges with any diagnosis of myocardial infarction, 63,613 patients (22.1%) were admitted on a weekend. Using chi square test on weighted data, patients admitted on a weekend had significant increase in mortality (7.58% vs. 6.35%; $p< 0.001$). There were significantly fewer procedures performed on weekends vs. weekdays (43.61% vs. 46.54%; $p<0.001$). The average charges were very similar on weekends and weekdays ($51,957; SEM = 1377) vs. $53,885; SEM = 1328).

Conclusions: This national inpatient observational study holds up the prior inference that weekend admissions of MI have significantly worse outcomes with increased mortality. The significantly lower number of revascularization procedures done during the weekends is likely a causative factor. Other factors that affect this weekend phenomena warrant further studies.